

R E C E I V E D

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**NOT FOR PUBLICATION**

**UNITED STATES DISTRICT COURT  
DISTRICT OF NEW JERSEY**

TRANSWEB, LLC,

Plaintiff and  
Counterclaim-Defendant,

v.

3M INNOVATIVE PROPERTIES  
COMPANY and 3M COMPANY

Defendants and  
Counterclaim-Plaintiff

Civil Action No. 10-4413 (GEB)  
**MEMORANDUM OPINION**

**BROWN, Chief Judge**

This matter comes before the Court on requests for claim construction from Plaintiff/Counterclaim-Defendant TransWeb, LLC ("Plaintiff") together with Defendants/Counterclaim-Plaintiffs 3M Innovative Properties Company and 3M Company (collectively "3M" or "Defendants"). The parties submitted their Joint Claim Construction Chart ("JCC") on June 16, 2011, identifying seven (7) disputed terms. (Doc No. 117.) On July 15, 2011, the parties filed their opening claim construction briefs (Doc. Nos. 128, 129), and on September 2, 2011, the parties filed their reply briefs. (Doc. Nos. 159, 160.) A *Markman* hearing was held on November 14, 2011.

**I. BACKGROUND**

This is a patent infringement case concerning web material used in respirators, masks, and air filters that capture hazardous materials from the air. (See U.S. Patent 6,397,458 ("the

‘458 patent”); Doc. No. 128-2; U.S. Patent 6,808,551 (“the ‘551 patent”); Doc. No. 128-7).<sup>1</sup> The webs are “electrets”—a type of material that has a quasi-permanent electrical charge. (‘458 patent, 1:13-14.) The charge allows an electret to capture and hold onto charged particles, preventing, for example, hazardous materials from entering a mask wearer’s lungs. (*Id.* at 1:14-19.)

The ‘458 patent, assigned to 3M, is directed towards a method of making an electret article by transferring fluorine to the article from a gaseous phase. (‘458 patent, 1:1-4.) Electrets can lose their charge if they come into contact with oily particles. (*Id.* at 1:29-32.) Fluorinating the electret makes it resistant to oil, thereby preserving the filtering quality of the electret. (*Id.* at 1:40-50.) The following ‘458 claims are representative of those asserted against TransWeb:

1. A method of making an electret comprising:  
 fluorinating a polymeric nonwoven web to produce an article having surface fluorination; and  
charging the fluorinated web in a manner sufficient to produce an electret, the electret comprising at least about 45 atomic % fluorine as detected by ESCA.

30. The method of claim 18 [making an electret], wherein the charging step includes hydrocharging, DC corona discharge, or a combination thereof.

53. The method of claim 51 [making an electret], wherein the electret has a Quality Factor of at least 2.0/mm H<sub>2</sub>O.

The ‘551 patent, also assigned to 3M, is directed towards a method of using fluorinated electrets. (‘551 patent, 1: 1-2.) Claim 1 is representative of the claims asserted against TransWeb in this case:

1. A method of filtering contaminants, said method comprising:

<sup>1</sup> The ‘458 and ‘551 patents share a common specification. All citations of the specification will be to ‘458 patent.

passing an aerosol through a plasma surface modified  
 nonwoven polymeric web electret to remove contaminants from  
 the aerosol,  
 the nonwoven polymeric web comprising plasma surface  
 fluorination, the electret, when tested according to the Initial DOP  
 Penetration Test and the DOP Loading Test prior to contact with  
 the aerosol, exhibiting a DOP penetration of less than 20% for a  
 DOP load from 0.05 grams to 0.2 grams.

There are seven (7) disputed terms at issue (underlined in the claims above): (1)  
 hydrocharging; (2) contaminants; (3) at least about; (4) the electret having a quality factor of at  
 least 1.0/mmH<sub>2</sub>O; (5) wherein the electret has a Quality Factor of at least 1.5/mmH<sub>2</sub>O; (6)  
 wherein the electret has a Quality Factor of at least 2/mmH<sub>2</sub>O; and (7) charging the fluorinated  
 [web/article] . . . in a manner sufficient to produce an electret.

## II. DISCUSSION

### A. Standard of Review

The first step in a patent infringement analysis is to define the meaning and scope of the  
 claims of the patent. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995)  
 (*en banc*), *aff'd*, 517 U.S. 370 (1996). Claim construction, which serves this purpose, is a matter  
 of law exclusively for the court. *Id.* at 979. When construing claims, the court must first  
 consider the intrinsic evidence. Specifically, the focus of the court's analysis must begin and  
 remain on the language of the claims, "for it is that language that the patentee chose to use to  
 'particularly point[] out and distinctly claim[] the subject matter which the patentee regards as  
 his invention.'" *Interactive Gift Express, Inc. v. Compuserve, Inc.*, 256 F.3d 1323, 1331 (Fed.  
 Cir. 2001) (quoting 35 U.S.C. § 112, ¶ 2).

88 Generally, there is a presumption that the words of a claim will receive the full breadth of  
89 their ordinary meaning. *NTP, Inc. v. Research In Motion, Ltd.*, 392 F.3d 1336, 1346 (Fed. Cir.  
90 2004). The ordinary meaning may be derived from a variety of sources, including: the claim  
91 language, the written description, drawings, the prosecution history, and dictionaries or treatises.  
92 *Id.* This presumption may be rebutted if the patentee acted as his or her own lexicographer by  
93 clearly setting forth a definition of the claim term that differs from its ordinary and customary  
94 meaning. *Brookhill-Wilk I, LLC. v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1298-99 (Fed. Cir.  
95 2003). To rebut the presumption, the patentee's intent must be clearly expressed in the  
96 specification. *Merck & Co, Inc. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1370 (Fed. Cir.  
97 2005). When a patent applicant specifically defines a claim term in its description of its  
98 invention, that definition controls. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005)  
99 (*en banc*) ("In such cases, the inventor's lexicography governs."). The Federal Circuit has  
100 "repeatedly encouraged claim drafters who choose to act as their own lexicographers to clearly  
101 define terms used in the claims in the specification." *Sinorgchem Co. v. ITC*, 511 F.3d 1132,  
102 1136 (Fed. Cir. 2007).

103 When the patentee has not provided an explicit definition of a claim term, the words of a  
104 claim are given their plain and ordinary meaning to a person of ordinary skill in the art.  
105 *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). The person of  
106 ordinary skill in the art is deemed to read the claim terms in the context of the entire patent,  
107 including the specification. *Phillips*, 415 F.3d at 1313. However, a court should not limit the  
108 claims to the embodiments disclosed in the specification. *See Phillips*, 415 F.3d at 1323.

109 A court may also consider extrinsic evidence when an analysis of the intrinsic evidence  
110 alone does not resolve the ambiguities of a disputed claim term. *Id.* at 1582-83. While a court

may rely on extrinsic evidence to construe a claim, “what matters is for the court to attach the appropriate weight to be assigned to those sources.” *Phillips*, 415 F.3d at 1324. Extrinsic evidence may never be used to contradict intrinsic evidence. *Id.* at 1322-23.

## **B. Analysis**

There are seven (7) disputed terms at issue: (1) hydrocharging; (2) contaminants; (3) at least about; (4) the electret having a quality factor of at least 1.0/mmH<sub>2</sub>O; (5) wherein the electret has a Quality Factor of at least 1.5/mmH<sub>2</sub>O; (6) wherein the electret has a Quality Factor of at least 2/mmH<sub>2</sub>O; and (7) charging the fluorinated [web/article] . . . in a manner sufficient to produce an electret.

Several of TransWeb’s arguments for claim construction are related to its contentions that the claims of the patents lack sufficient written description in the specification or are indefinite and cannot be construed. While indefiniteness has the same construction underpinnings as a *Markman* hearing, several reasons militate against deciding indefiniteness at this time.

First, indefiniteness is proven “where an accused infringer shows by clear and convincing evidence that a skilled artisan could not discern the boundaries of the claim” based on the intrinsic evidence or knowledge of the relevant art area. *Halliburton Energy Servs., Inc., v. M-I LLC*, 514 F.3d 1244, 1249-50 (Fed. Cir. 2008). Thus, there is a high burden that would be difficult to meet at this early stage. Second, neither party has offered expert testimony to support its indefiniteness or written description arguments<sup>2</sup>, but expert testimony is often helpful in this task. *Phillips*, 415 F.3d at 1318 (“We have also held that extrinsic evidence in the form of expert testimony can be useful to a court for a variety of purposes.”); *see also Ortho-McNeil v. Caraco Pharm.*, 476 F.3d 1321 (relying on expert testimony to construe the term “about”). And third,

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<sup>2</sup> The time for expert discovery has not yet expired. (See Amended Scheduling Order; Doc. No. 51.)

rather than giving meaning to a claim, as a *Markman* hearing is meant to do, indefiniteness invalidates the patent claims entirely. *Exxon Research & Eng'g Co. v. United States*, 265 F.3d 1371, 1376 (Fed. Cir. 2001). Thus, the Court could defer the indefiniteness arguments until summary judgment. See, e.g., *Intergraph Hardware Techs. Co. v. Toshiba Corp.*, 508 F. Supp. 2d 752, 773 n.3 (N.D. Cal. 2007) (“[The] indefiniteness argument is inappropriate at the claim construction stage.”); *Pharmastem Therapeutics, Inc. v. Viacell Inc.*, 2003 U.S. Dist. LEXIS 877, at \*2 n. 1 (D. Del. Jan. 13, 2003) (“[T]he court will not address the defendants’ indefiniteness argument at [the *Markman* hearing].”). Indeed, the Federal Circuit in *Halliburton*, *Exxon* and *Datamize* reviewed courts that dismissed the case for indefiniteness at summary judgment, not at a prior *Markman* hearing. *Halliburton*, 514 F.3d at 1249; *Exxon*, 265 F.3d at 1373; *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005).

It may be true that determining the indefiniteness of claim language is a question of law “that is drawn from the court’s performance of its duty as the construer of patent claims.” *Exxon*, 265 F.3d at 1373. The same duty gives rise to the *Markman* hearing. However, this does not outweigh the previous practical considerations that militate against determining indefiniteness prior to the end of fact or expert discovery. Therefore, as long as the claims are “amenable to construction, however difficult that task may be[,]” the Court will construe them here. *Exxon*, 265 F.3d at 1375. The Court’s constructions will be made without prejudice to TransWeb’s ability through dispositive motions to challenge the validity of the patents based on lack of written description or indefiniteness under 35 U.S.C. §112.

#### ***1. Hydrocharging***

156 3M contends that “hydrocharging” means “contacting an article with water in a manner  
157 sufficient to impart a charge to the article.” (JCC at 1; Doc. No. 117.) TransWeb proposes that  
158 the term means “impinging jets of water or a stream of water droplets onto the article at a  
159 pressure sufficient to impart a filtration enhancing electret charge to the web, and then drying the  
160 article.” (*Id.*)

161 A patent’s “specification may reveal a special definition given to a claim term by the  
162 patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s  
163 lexicography governs.” *Phillips*, 415 F.3d at 1316; *see also Honeywell Int’l, Inc. v. Universal*  
164 *Avionics Sys. Corp.*, 493 F.3d 1358, 1361 (Fed. Cir. 2007) (“When a patentee defines a claim  
165 term, the patentee’s definition governs, even if it is contrary to the conventional meaning of the  
166 term.”). Here, 3M acted as its own lexicographer in defining “hydrocharging.” The  
167 specification provides that charging can be accomplished using a variety of techniques including  
168 “hydrocharging, i.e., contacting an article with water in a manner sufficient to impart a charge to  
169 the article, followed by drying the article.” (‘458 patent, 5:47-49.) It is clear that 3M intended to  
170 define the term and it is this language that 3M adopts as its proposed construction of  
171 “hydrocharging.” *See Edward Lifesciences LLC v. Cook, Inc.*, 582 F.3d 1332, 1334 (Fed. Cir.  
172 2009) (holding that the specification’s use of “i.e.” signals sufficient intent to define the  
173 preceding word). Interestingly though, 3M does not adopt the *entire* definition from the  
174 specification; its proposed construction leaves off the phrase “followed by drying the article.”

175 Additionally, the claim language tracks the definition. Dependant claim 2 recites a  
176 method of making an electret “comprising charging the fluorinated article by contacting the  
177 fluorinated article with water in a manner sufficient to produce an electret, and then drying the

178 article.”<sup>3</sup> (‘458 patent, 12:3-6.) That claim is juxtaposed with dependant claim 3, which recites  
 179 charging by “impinging jets of water or a stream of water droplets onto the fluorinated article at  
 180 a pressure and for a period sufficient to produce and electret, and drying the article.”<sup>4</sup> (*Id.* at 12:  
 181 8-11.) Claims 30, 31, and 32 are the only claims that actually recite the word “hydrocharging”  
 182 as a step. (*Id.* at 13: 41-45.) Hence, read together, it is apparent that “hydrocharging” is  
 183 intended to be a term covering several methods. Otherwise, there would be no need for the  
 184 patentee to differentiate these claims. *See Philips*, 415 F.3d at 1314 (“Differences among claims  
 185 can also be a useful guide in understanding the meaning of particular claim terms.”).

186 Nevertheless, TransWeb contends that a person of ordinary skill in the art would  
 187 understand the term as TransWeb defines it. The specification states that “[o]ne example of a  
 188 useful hydrocharging process includes impinging jets of water or a stream of water droplets on  
 189 the article at a pressure and for a period sufficient to impart a filtration enhancing electret charge  
 190 to the web, and then drying the article.” (‘458 patent, 5:51-55.) TransWeb insists that this  
 191 example is the only method of hydrocharging described in the patent and that no other  
 192 embodiments describe any other technique. (*Id.* at 8:45-58) (Example 10). Moreover,  
 193 TransWeb points out that the patents-in-suit incorporate U.S. Patent No. 5,496,507 (the “‘507  
 194 patent”) when referring to hydrocharging. The ‘507 patent recites a method of charging electret  
 195 filter media and generally claims “impinging on a nonwoven web of thermoplastic  
 196 nonconductive microfibers capable of having a high quantity of trapped charge jets of water or a  
 197 stream of water droplets at a pressure sufficient to provide the web with filtration enhancing

<sup>3</sup> The Joint Claim Construction Chart lists claim 2 of the ‘458 patent as containing the term “hydrocharging.” But actually, claim 2 does not contain the word “hydrocharging” and instead contains the specification’s definition of “hydrocharging”—“contacting the fluorinated article with water in a manner sufficient to produce an electret, and drying the article.”

<sup>4</sup> Oddly, claim 3 is not listed as a claim that contains the term “hydrocharging.” But claim 3’s method is the one TransWeb uses as its definition of hydrocharging.



198 electric charge and drying said web.” (‘507 patent, 1:57-62.) Referencing the ‘507 patent, the  
199 ‘458 and ‘551 patents’ “Background” section explains, “[e]lectrets are currently produce by a  
200 variety of methods including . . . hydrocharging (see, e.g., U.S. Patent No. 5,496,507  
201 (Angadjivand et. al)).” (‘458 patent, 1:20-23.) Furthermore, the specification states that “[a]n  
202 example of a suitable method of hydrocharging is described in the [‘507 patent].” (‘458 patent,  
203 5:61-63.) From these references to the ‘507 patent, TransWeb concludes that a person of  
204 ordinary skill reading the ‘458 patent and ‘551 patent would understand “hydrocharging” as it is  
205 explained in the ‘507 patent. But Court finds TransWeb’s argument regarding the ‘507 patent  
206 unconvincing. The specification makes clear that the method described in the ‘507 patent is but  
207 one example of “hydrocharging” as that term is defined in the patents-in-suit.

208         Additionally, TransWeb argues that 3M’s broad construction is inconsistent with the  
209 specification, and “where a patentee argues for a broad interpretation of a claim term, courts  
210 have found that the specification may serve to show that a narrow meaning is appropriate.”  
211 (Pl.’s Br. at 9; Doc. No. 129.) To support this argument, TransWeb cites two cases that  
212 construed claims to cover the only embodiment described by the specification. *See Toro Co. v.*  
213 *White Consol. Indus.*, 199 F.3d 1295 (Fed. Cir. 1999); *General Am. Transp. Corp. v. Cryo-*  
214 *Trans, Inc.*, 93 F.3d 766 (Fed. Cir. 1996). In both of those cases, the patentee was not permitted  
215 to broadly define a claim term beyond the preferred embodiment where the preferred  
216 embodiment was the only one described. *General Am. Transp. Corp.*, 93 F.3d at 770 (finding  
217 “nothing in the claim language, specification, or drawings” supported the patentee’s broad  
218 construction).

219         Both *Toro* and *General American* are inapposite. Neither of those cases involved the  
220 patentee acting as his own lexicographer. Instead, the patentees in those cases offered

221 constructions that went beyond what the specifications and claims disclosed. In this case,  
222 however, not only does TransWeb ask the Court to ignore the patents' express definition of a  
223 claim term, it asks the Court to limit a claim term to an embodiment disclosed in the  
224 specification. *See SciMed Life Sys. v. Advanced Cardiovascular Sys.*, 242 F.3d 1337, 1340 (Fed.  
225 Cir. 2001). "[W]hen claim language is broader than the preferred embodiment, it is well-settled  
226 that claims are not to be confined to that embodiment." *DSW v. Shoe Pavilion*, 537 F.3d 1342,  
227 1348 (Fed. Cir. 2008). Here, claims include, but are not limited to the example of hydrocharging  
228 provided in Example 10 and the '507 patent incorporated into the patents-in-suit. (*Compare*  
229 '458 patent claim 2 *with* claim 3.)

230 The parties also disagree on the impact of a piece of extrinsic evidence: the deposition  
231 testimony of one of the '458 and '551 patent inventors, Dr. Seyed Angadjivand. TransWeb  
232 suggests that Dr. Angadjivand had not developed any hydrocharging methods other than using a  
233 hydroentangler or spray nozzle, both involving impinging jets of water at high pressure. (Pl.'s  
234 Br. At 11-14; Doc. No. 129.) Because Dr. Angadjivand had not investigated any other methods  
235 for the '458 or '551 patents, had not reduced to practice any other methods, TransWeb concludes  
236 that "hydrocharging" should be construed only to cover what had actually been invented—  
237 impinging jets of water at high pressure. TransWeb points to the deposition testimony of Dr.  
238 Angadjivand, where he stated that he had not recommended proceeding with other  
239 hydrocharging methods because "at that time we did not have enough experience, didn't have  
240 enough experiment, so we just showed the feasibility. We were far ahead with the other two, so  
241 I recommended the other two." (Pl.'s Ex. G at 97:1-25; Doc. No. 129-1.) But, as 3M pointed  
242 out during the *Markman* hearing, this testimony is, at best, ambiguous. 3M concluded from the  
243 testimony that Dr. Angadjivand invented four methods of hydrocharging—hydroentangler, spray

244 nozzle, funnel, and dipping—but recommended commercializing only the first two.

245 Consequently, this piece of extrinsic evidence is of no significant value and certainly cannot be  
246 used to contradict the intrinsic evidence.

247 Accordingly, the Court relies on the intrinsic evidence presented by the parties and finds  
248 that the evidence supports Defendants’ construction. The specification sufficiently demonstrates  
249 a clear intent that the patentee wished to act as his own lexicographer in defining  
250 “hydrocharging,” and it is that definition that controls. TransWeb will not be permitted to limit  
251 the definition of the term to one example of that method. Therefore, “hydrocharging” means  
252 “contacting an article with water in a manner sufficient to impart a charge to the article, followed  
253 by drying the article.”

## 254 255 **2. Contaminants**

256  
257 3M defines this term as “particles and/or other substances that generally may not be  
258 considered to be particles (e.g., organic vapors).” (JCC at 2; Doc. No. 117.) TransWeb argues  
259 this term should be defined as “particles and/or other substances that are generally considered  
260 undesirable.” (*Id.*)

261 Here, again, the patentee has defined the claim term in the specification. “When a  
262 patentee defines a claim term, the patentee’s definition governs, even if it is contrary to the  
263 conventional meaning of the term.” *Honeywell Int’l, Inc.*, 493 F.3d at 1361. In the “Glossary”  
264 section, the specification provides that “‘contaminants’ means particles and/or other substances  
265 that generally may not be considered to be particles (e.g., organic vapors).” (‘458 patent, 3:22-  
266 24.) 3M adopts this definition verbatim.

TransWeb's definition of "contaminants" incorporates a part of the patent's glossary definition but adds a dictionary definition, which TransWeb argues gives the term its "ordinary meaning" so that a person skilled in the art can understand what a "contaminant" is. (Pl.'s Br. at 15; Doc. No. 129.) TransWeb argues its dictionary definition does not change the definition already provided in the patents' glossary section, rather its definition is "consistent with and not contradictory to any definition in the intrinsic record." (Pl.'s Reply Br. At 14; Doc. No. 160.) TransWeb cites to claim language in the '458 and '551 patents, suggesting the patentee considered contaminants to be "undesirable." Claim 23 states, "the fluorination step *prevents contaminants from interfering* with the addition of fluorine atoms." ('458 patent, 13: 21-24) (emphasis added). And the independent claims of the '551 patent require "passing an aerosol through . . . [an electret] to *remove contaminants* from the aerosol." ('551 patent, 12:19-23, 13:22-25, 14:3-24) (emphasis added). This language, contends TransWeb, demonstrates that the intrinsic evidence supports its addition of the dictionary definition of "contaminant" as "undesirable." Should the Court adopt 3M's definition, TransWeb argues that the term will be ambiguous, self-contradictory, and will offer no useable meaning. (Pl.'s Reply Br. at 11; Doc. No. 160.) This is because the TransWeb reads the term to entail "particles that generally may not be considered to be particles." (Pl.'s Reply Br. At 11; Doc. No. 160.)

But the Court notes that there is another way to read the glossary definition. "Contaminants" includes two, distinguishable clauses: (1) particles, and/or (2) substances that generally may not be considered to be particles. Furthermore, while there is a presumption that the words of a claim will receive their ordinary meaning, *NTP, Inc.*, 392 F.3d at 1346, this presumption is rebutted if the patentee acted as his or her own lexicographer. *See Brookhill-Wilk I, LLC.*, 334 F.3d at 1298-99. When a patent applicant specifically defines a claim term in its

description of its invention, his definition controls. *Phillips*, 415 F.3d at 1316. In this case, 3M rebutted any presumption that a “contaminant” must be “undesirable,” by expressly defining it otherwise in its glossary. The inquiry ends here. “Contaminant” means “particles and/or other substances that generally may not be considered to be particles (e.g., organic vapors).”

### 3. *At least about*

3M contents that the term is straightforward and that it does not need construction. (Def.’s Br. at 12; Doc. No. 128). Alternatively, 3M argues that it means “at least approximately,” and that “‘approximately’ means within the range of experimental error a person of skill in the art would expect when he/she uses the test methodology described in the Patent.” (JCC at 2; Doc. No. 117.) TransWeb argues that this claim term is indefinite and offers no construction. (*Id.*)

“The word ‘about’ does not have a universal meaning in patent claims . . . the meaning depends on the technological facts of a particular case.” *Ortho-McNeil Pharm., Inc. v. Caraco Pharm. Labs, Ltd.*, 476 F.3d 1321, 1326 (Fed. Cir. 2007). The court in *Amgen, Inc. v. Chugai Pharmaceutical Co.* held that the term “about 160,000 IU/AU” (signifying erythropoietin activity *in vitro*) was indefinite because nothing in the specification, prosecution history, or prior art provided any indication as to what specific range of activity might be covered by the term “about.” *See* 927 F.2d 1200, 1218 (1991). The court noted that no expert testimony was available to facilitate construction of the term and that its “holding that the term ‘about’ renders indefinite [the claims] should not be understood as ruling out any and all uses of this term in patent claims. It may be acceptable in appropriate fact situations.” *Id.*

313 Generally, courts have been able to construe patent claim terms that use qualifying  
314 words. “Such broadening usages as ‘about’ must be given reasonable scope; they must be  
315 viewed by the decisionmaker as they would be understood by persons experienced in the field of  
316 the invention.” *Modine Mfg. Co. v. United States Int’l Trade Comm’n*, 75 F.3d 1545, 1554 (Fed.  
317 Cir. 1996) (quoting *Andrew Corp. v. Gabriel Electronics, Inc.*, 847 F.2d 819, 821-22 (Fed. Cir.  
318 1988). Thus, where intrinsic evidence as to technical meaning or, if intrinsic evidence is  
319 unavailable, expert testimony is supplied to assist in determining the meaning of “about,” the  
320 court will adopt that construction and find the terms definite. *See, e.g., Cohesive Techs., Inc. v.*  
321 *Waters Corp.*, 543 F.3d 1351, 1369 (Fed. Cir. 2008); *BJ Servs. Co. v. Halliburton Energy Servs.*,  
322 338 F.3d 1368, 1372-73 (Fed. Cir. 2003). Where such intrinsic or extrinsic evidence is not  
323 available, “about” has been given its plain and ordinary meaning—“approximately.” *See, e.g.,*  
324 *Merck & Co*, 395 F.3d at 1369-70.

325 Here, neither party has offered expert testimony, but it is likely that “at least about” is  
326 amenable to construction and can be given its ordinary meaning, as it would be understood by a  
327 person of ordinary skill in the art. TransWeb argues that because there is no intrinsic evidence or  
328 expert testimony as to a specific rate of error (e.g.,  $\pm .05/\text{mm H}_2\text{O}$  Quality Factor), no person of  
329 ordinary skill in the art could understand the metes and bounds of the claims. The intrinsic  
330 evidence does not suggest any exact numerical range, but numerous courts have found this  
331 acceptable and defined “about” to mean “approximately.” *Merck & Co.*, 395 F.3d at 1369-70;  
332 *Astrazeneca Pharms. LP v. Handa Pharms, LLC*, 2010 WL 4941431, at \*4 (D.N.J. Nov. 30,  
333 2010); *Teva Pharm Indus. Ltd v. Dr. Reddy’s Labs, Ltd*, 2008 WL 2557510, at \*6 (D.N.J. June  
334 23, 2008).

335 Convincing here, the patents, in detail, provide the methodologies that a person of  
336 ordinary skill in the art should use to assess the claim limitations. Specifically, the patent details  
337 how to measure oil resistance using Quality Factor, how to measure surface fluorination using  
338 electron spectroscopy for chemical analysis (“ESCA”), and how to determine the CF<sub>3</sub>:CF<sub>2</sub> ratio.  
339 (‘458 patent, 3:42-62; 3:66-4:7; 6:20-36.) 3M’s definition of “at least about” recognizes that a  
340 person of ordinary skill in the art would understand these methodologies and their application to  
341 the art, even if no specific ranges of error are provided. In other words, with these testing  
342 methodologies in mind, a person of ordinary skill would understand that “about” means  
343 “approximately” because one generally accounts for experimental testing error. *See BJ Servs.*  
344 *Co. v. Halliburton Energy Servs.*, 338 F.3d 1368, 1372 (Fed. Cir. 2003) (“That some claim  
345 language may not be precise, however, does not automatically render a claim invalid.”). Indeed,  
346 3M cites the deposition testimony of TransWeb’s vice-president, Kumar Ogale, who agreed that  
347 a person familiar with each of the tests above would understand approximately what the rate of  
348 experimental error would be. (Def.’s Ex. C at 216:8-218:9; Doc. No. 159-4) (“Q: Do you or  
349 would someone who’s familiar with the [DOP loading] test have an understanding of  
350 approximately what the error rate would be? A: Yes.”).

351 Consequently, for purposes of construing “at least about,” the Court finds that a person of  
352 ordinary skill would not be left without guidance as to an error range, which the specification  
353 allows to be “interpreted in its technologic and stylistic context.” *Pall Corp. v. Micron*  
354 *Separations*, 66 F.3d 1211, 1217 (Fed.Cir. 1995). Preserving the issue of indefiniteness or lack  
355 of written description under 35 U.S.C. 112 for dispositive motions, the Court concludes that “at  
356 least about” means “at least approximately.”



4. *The electrets having a quality factor of at least 1.0/mm H<sub>2</sub>O*  
*Wherein the electrets has a Quality Factor of at least 1.5/mm H<sub>2</sub>O*  
*Wherein the electrets has a Quality Factor of at least 2/mm H<sub>2</sub>O*

3M defines these terms as meaning “[wherein] the electrets [as defined] having a quality factor of at least [1.0/1.5/2 mm H<sub>2</sub>O], as determined by the method for measuring Quality Factor described in the patent.” (JCC at 3-5; Doc. No. 117.) TransWeb argues that these terms mean “[wherein] the electrets having a quality factor of at least [1.0/1.5/2 mm H<sub>2</sub>O] achieved by AC corona fluorination, impinging jets of water at a pressure sufficient to produce an electret and then drying the article, or by using a web having a basis weight of about 200 g/m<sup>2</sup>.” (*Id.*)

The dispute concentrates on the term “quality factor.” 3M insists that it has essentially acted as its own lexicographer in defining this term, and its construction does not go beyond the formula. The specification states:

Initial DOP penetration is determined by forcing 0.3 micrometer diameter dioctyl phthalate (DOP) particles at a concentration of between 70 and 140 mg/m<sup>3</sup> (generated using a TSI No. 212 sprayer with four orifices and 30 psi clean air) through a sample of filter media which is 4.5 inches in diameter at a rate of 42.5 L/min (a face velocity of 6.9 centimeters per second). The sample is exposed to the DOP aerosol for 30 seconds until the readings stabilize. The penetration is measured with an optical scattering chamber, Percent Penetration Meter Model TPA-8F available from Air Techniques Inc. Pressure drop across the sample is measured at a flow rate of 42.5 L/min (a face velocity of 6.9 cm/sec) using an electronic manometer. Pressure drop is reported in mm of water (“mm H<sub>2</sub>O”). DOP penetration and pressure drop are used to calculate the quality factor “QF” from the natural log (ln) of the DOP penetration by the following formula:

$$QF[1 / \text{mm H}_2\text{O}] = \frac{-\text{Ln} \frac{\text{DOP Penetration}(\%) }{100}}{\text{Pressure Drop}[\text{mm H}_2\text{O}]}$$



(‘458 patent, 6:39-60.) 3M contends that this measurement and corresponding formula are sufficient to define “quality factor.” It also points out that the formula was sufficient to demonstrate to the USPTO that the term “quality factor” was enabled. (Def.’s Ex. 3 at 6; Doc. No. 128-4.)

TransWeb counters that 3M’s proposed construction is too broad and that TransWeb’s construction properly limits the term to the techniques that must be used to achieve the required quality factors. (Pl.’s Br. at 21; Doc. No. 129.) TransWeb relies on the fact that in most of the examples in the specification for which quality factor is over 1.0/mm H<sub>2</sub>O, the article was produced by AC corona fluorination or impinging jets of water at a pressure sufficient to produce an electret and then drying the article. The exception, example 17, was charged using only DC corona discharge, but had a basis weight of 200 g/m<sup>2</sup>.<sup>5</sup> TransWeb argues that the specification discloses only one embodiment: “that is, only by using AC corona fluorination, impinging jets of water at a pressure sufficient to produce an electret and then drying the article, or by using a web having a basis weight of about 200 g/m<sup>2</sup>, would one skilled in the art understand how to achieve [the claimed quality factors.]” (Pl.’s Br. at 22-23; Doc. No. 129.) Consequently, TransWeb concludes that since this is the only embodiment supporting the electrets with required quality factors, those techniques limit the claim term to its proper scope. *See Toro*, 199 F.3d 1295; *General Am. Transp.*, 93 F.3d 766.

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<sup>5</sup> TransWeb concludes that because hydrocharging was not used to produce a high quality factor in Example 17, it must have been the high basis weight that was the dominant factor in achieving the high quality factor. TransWeb cites to Example 18, which used a 200 gm<sup>2</sup> basis weight and also achieved a high quality factor. This argument is flawed for two reasons. First, it is a classic example of correlation without causation: TransWeb offers no evidence that it is the high basis weight that actually caused a high quality factor; it very well could have resulted from DC corona discharge. Second, Example 18 was charged using AC corona fluorination, which TransWeb includes a technique to achieve sufficient quality factor.

The Federal Circuit has reinforced that “although the specification often describes very specific embodiments of the invention, [the court has] repeatedly warned against confining the claims to those embodiments.” *Phillips*, 415 F.3d at 1323. Yet TransWeb’s definition seeks to import limitations from several different embodiments (not just one). Further, a person of ordinary skill is unlikely to understand a measurement (e.g., 1.0/mm H<sub>2</sub>O) in terms of the processes by which it is achieved; rather one would understand it in terms of how it is calculated. *Id.* (“[T]he line between construing terms and importing limitations can be discerned with reasonable certainty and predictability if the court’s focus remains on understanding how a person of ordinary skill in the art would understand the claim terms.”). Here, the term focuses on the measurable characteristics of the finished product, not on the methods used to make it.

Therefore, the Court construes “the electret having a quality factor of at least 1.0/mm H<sub>2</sub>O” to mean “the electret [as defined] having a quality factor of at least 1.0/mm H<sub>2</sub>O, as determined by the method for measuring Quality Factor described in the patent.” The term “wherein the electret has a Quality Factor of at least 1.5/mm H<sub>2</sub>O” means “wherein the electret [as defined] has a Quality Factor of at least 1.5/mm H<sub>2</sub>O, as determined by the method for measuring Quality Factor in the patent.” And the term “wherein the electret has a Quality Factor of at least 2/mmH<sub>2</sub>O” means “wherein the electret [as defined] has a Quality Factor of at least 2/mm H<sub>2</sub>O, as determined by the method for measuring Quality Factor described in the patent.”

**5. *Charging the fluorinated [web/article] . . . in a manner sufficient to produce an electret***

3M asserts that this term means “imparting a charge to the [web/article] so the end product is an electret [as defined]. Before one imparts the charge, the article may be either

charged or uncharged.” (JCC at 7-8; Doc. No. 117.) TransWeb argues that this term is indefinite, a challenge the Court will defer as explained above. (Pl.’s Reply Br. at 25; Doc. No. 160.) Alternatively, TransWeb defines this term as “charging the fluorinated web/article, such that the charging process alone is sufficient to impart a quasi-permanent electrical charge to the fluorinated web/article.” (JCC at 7-8; Doc. No. 117.)

The dispute surrounding this term focuses on whether the preferred embodiment is included in the parties’ proposed constructions. 3M argues that its proposed construction should be adopted because it includes the preferred embodiment, whereas TransWeb’s construction does not. “A claim construction that excludes the preferred embodiment ‘is rarely, if ever, correct and would require highly persuasive evidentiary support.’” *Adams Respiratory Therapeutics, Inc. v. Perrigo Co.*, 616 F.3d 1283, 1290 (Fed. Cir. 2010) (quoting *Vitronics Corp. v. Conceptronic Inc.*, 90 F.3d 1576, 1583-84 (Fed. Cir. 1996)). Specifically, 3M notes that, in the preferred embodiment, the fluorination step charges the web before the “charging step.” (Def.’s Br. at 20; Doc. No. 128.) This is because “[t]he electrical discharge applied during the fluorination process is capable of modifying the surface chemistry of the polymeric article when applied in the presence of a source of fluorine containing species.” (‘458 patent, 5:21-24.) Consequently, 3M concludes that “before one imparts the charge, the article may be either charged or uncharged.” (JCC at 7-8; Doc. No. 117.) 3M faults TransWeb’s construction “because it reads the preferred embodiment out of the claims by requiring the electret to become charged through ‘the charging process alone.’” (Def.’s Br. at 21-22; Doc. No. 128.)

But TransWeb’s construction does not read out the preferred embodiment. TransWeb and 3M agree that the critical “charging step” occurs after the web is fluorinated. The logical inference is that it is the charging step that is applied to the fluorinated web (not fluorination

itself) that must be sufficient to produce an electret. That is consistent with the intrinsic evidence. After the specification details the fluorination process, it explains that “[c]harging the polymeric article to produce an electret can be accomplished using a variety of techniques.” (‘458 patent, 5:45-46.) Thus, it is logical that the “charging process” is alone sufficient to impart the defined characteristics of an electret. While a charge may be created through fluorination, that charge is not sufficient to produce an electret. Otherwise, the “charging step” (e.g., hydrocharging and corona charging) would be unnecessary.

TransWeb argues that, according to 3M’s construction, an article or web could start out as an electret. That is based on 3M’s second sentence, which adds that “before one imparts the charge, the article may be either charged or uncharged.” But the second sentence finds support in the specification and claims. Claim 1 separates steps, reciting a “method of making an electret comprising: [1] fluorinating a polymeric nonwoven web to produce an article having surface fluorination; and [2] charging the fluorinated web in a manner sufficient to produce an electret . . . .” (‘458 patent, 11:63-67) (brackets added). It is that first step, reflected in 3M’s second sentence, that may impart some charge. (‘458 patent, 5:21-24) (“The electrical discharge applied during the fluorination process is capable of modifying the surface chemistry of the polymeric article when applied in the presence of a source of fluorine containing species.”). And according to 3M, a person of ordinary skill in the art would understand that fluorination may impart a charge. (Def.’s Br. at 20; Doc. No. 128.)

The Court finds that both constructions convey ordinary meaning and are harmony with the intrinsic evidence. Fluorinating the article can result in a charged or uncharged article, but the “charging process” alone, imparts a charge sufficient to impart a quasi-permanent electrical charge to the fluorinated web/article. However, to be precise, the first step (fluorination) is not

implicated directly by the disputed claim term and does not require defining. Only the second step (charging the fluorinated web sufficient to produce an electret) requires construction. TransWeb's proposed construction, because it focuses on the charging step, best accomplishes this task. Accordingly, the Court construes "charging the fluorinated [web/article] . . . in a manner sufficient to produce an electret" to mean "charging the fluorinated web/article, such that the charging process alone is sufficient to impart a quasi-permanent electrical charge to the fluorinated web/article."

### III. CONCLUSION

For the reasons stated herein and for the reasons set forth on the record during the *Markman* hearing, the Court construes the terms of the of U.S. Patent No. 6,397,458 and U.S. Patent No. 6,808,551 as announced in the order accompanying this memorandum opinion.

Dated: November 16, 2011

Garrett E. Brown, Jr.  
GARRETT E. BROWN, JR., U.S.D.J.